Patent Claims

1. Compounds of the formula i,

in which

R1 is hydroxyl, 1-4C-alkoxy, 3-7C-cycloalkoxy, 3-7C-cycloalkylmethoxy or completely or predominantly fluorine-substituted 1-4C-alkoxy,

R2 is hydroxyl, 1-4C-alkoxy, 3-7C-cycloalkoxy, 3-7C-cycloalkylmethoxy or completely or predominantly fluorine-substituted 1-4C-alkoxy,

or in which R1 and R2 together are a 1-2C-alkylenedioxy group,

R3 is hydrogen or 1-4C-alkyl,

R31 is hydrogen or 1-4C-alkyl.

or in which R3 and R31 together are a 1-4C-alkylene group,

R4 is hydrogen or 1-4C-alkyl,

R5 is hydrogen,

R51 is hydrogen,

or in which R5 and R51 together represent an additional bond.

R6 is hydrogen, halogen, nitro, 1-4C-alkyl, trifluoromethyl or 1-4C-alkoxy.

R7 is 1-4C-alkyl, 3-7C-cycloalkyl, 3-7C-cycloalkylmethyl, pyridinyl, phenyl or R71- and/or R72substituted phenyl, wherein

R71 is halogen, hydroxyl, cyano, trifluoromethyl, carboxyl, nitro, 1-4C-alkyl or 1-4C-alkoxy,

R72 is 1-4C-alkoxy.

R8 is 1-4C-alkyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl, amino, C(O)N(H)R9, phenyl, HetA, aryl-1-4C-alkyl, HetB-1-4C-alkyl, cyano-1-4C-alkyl, 1-4C-alkoxycarbonyl-1-4C-alkyl or R14-and/or R15- and/or R16-substituted phenyl, wherein

R9 is hydrogen, phenyl or R91- and/or R92-substituted phenyl, wherein

R91 is halogen, 1-4C-alkyl, 1-4C-alkoxy, nitro, trifluoromethyl or completely or predominantly fluorine-substituted 1-4C-alkoxy,

R92 is halogen or 1-4C-alkoxy,

- HetA is an unsubstituted or R10- and/or R11-substituted heteroaryl radical which is selected from the group consisting of pyrrolyl, furanyl, thiophenyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, isothiazolyl, thiadiazolyl, pyridinyl, pyrimidinyl, pyrazinyl and pyridazinyl, wherein
- R10 is 1-4C-alkyl, phenyl, halogen or trifluoromethyl,
- R11 is 1-4C-alkyl,
- aryl is phenyl or R12- and/or R13-substituted phenyl, wherein
- R12 is 1-4C-alkyl, 1-4C-alkoxy, halogen, nitro or hydroxyl,
- R13 is 1-4C-alkoxy or halogen,
- HetB is an unsubstituted or R12- and/or R13-substituted indolyl radical,
- R14 is 1-4C-alkyl, trifluoromethyl, 1-4C-alkoxy, halogen, nitro, hydroxyl, amino, mono- or di-1-4C-alkylamino or completely or predominantly fluorine-substituted 1-4C-alkoxy,
- R15 is 1-4C-alkyl, 1-4C-alkoxy, halogen or completely or predominantly fluorine-substituted 1-4C-alkoxy,
- R16 is 1-4C-alkoxy,

and the salts and the E/Z isomers of these compounds.

- 2. Compounds of the formula I as claimed in claim 1, in which
- R1 is 1-2C-alkoxy, 3-5C-cycloalkoxy, 3-5C-cycloalkylmethoxy or completely or predominantly fluorine-substituted 1-2C-alkoxy,
- R2 is 1-2C-alkoxy, 3-5C-cycloalkoxy, 3-5C-cycloalkylmethoxy or completely or predominantly fluorine-substituted 1-2C-alkoxy,
- R3 is hydrogen,
- R31 is hydrogen,
- R4 is hydrogen or 1-2C-alkyl,
- R5 is hydrogen,
- R51 is hydrogen,

or in which R5 and R51 together represent an additional bond,

- R6 is hydrogen,
- R7 is 1-4C-alkyl or phenyl,
- is 1-4C-alkyl, hydroxy-2-4C-alkyl, amino, C(O)N(H)R9, phenyl, HetA, aryl-1-2C-alkyl, HetB-1-2C-alkyl, cyano-1-2C-alkyl, 1-4C-alkoxycarbonyl-1-2C-alkyl or R14- and/or R15- and/or R16-substituted phenyl, wherein
- R9 is hydrogen, phenyl or R91-substituted phenyl, wherein
- R91 is halogen,
- HetA is an unsubstituted or R10-substituted heteroaryl radical which is selected from the group consisting of pyrrolyl, furanyl, pyrazolyl, thiadiazolyl and pyridinyl, wherein
- R10 is 1-4C-alkyl,
- aryl is phenyl or R12- and/or R13-substituted phenyl, wherein

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R12 is 1-4C-alkoxy,

R13 is 1-4C-alkoxy,

HetB is an unsubstituted or R12- and/or R13-substituted indol-3-yl radical,

R14 is 1-4C-alkyl, trifluoromethyl, 1-4C-alkoxy, halogen, nitro, hydroxyl, amino, mono- or di-1-4C-alkylamino or completely or predominantly fluorine-substituted 1-2C-alkoxy,

R15 is 1-4C-alkoxy or completely or predominantly fluorine-substituted 1-2C-alkoxy,

R16 is 1-4C-alkoxy,

and the salts and the E/Z isomers of these compounds.

- 3. Compounds of the formula I as claimed in claim 1, in which
- R1 is methoxy,
- R2 is methoxy,

R3, R31, R4, R5 and R51 are hydrogen,

- R6 is hydrogen,
- R7 is methyl or phenyl,
- R8 is methyl, hydroxypropyl, amino, C(O)N(H)R9, phenyl, HetA, arylmethyl, indol-3-ylmethyl, cyanomethyl, ethoxycarbonylmethyl or R14- and/or R15- and/or R16-substituted phenyl, wherein
- R9 Is hydrogen or R91-substituted phenyl, wherein
- R91 is fluorine.
- HetA is an unsubstituted furanyl, pyrrolyl or pyridinyl radical, a R10-substituted thiadiazolyl radical or a R10-substituted pyrazolyl radical, wherein
- R10 is methyl,
- aryl is phenyl or R12- and/or R13-substituted phenyl, wherein
- R12 is methoxy,
- R13 is methoxy,
- R14 is methyl, trifluoromethyl, methoxy, fluoro, chloro, nitro, hydroxyl, amino or dimethylamino,
- R15 is methoxy,
- R16 is methoxy,

and the salts and the E/Z isomers of these compounds.

4. Compounds of the formula I as claimed in claim 1, in which

either

- R1 is methoxy,
- R2 is methoxy,
- R3, R31, R4, R5 and R51 are hydrogen,
- R6 is hydrogen,
- R7 is methyl,

is methyl, hydroxypropyl, amino, C(O)N(H)R9, phenyl, HetA, 3-methoxyphenyl, 4-chlorophenyl, 4-nitrophenyl, 4-hydroxyphenyl, 4-aminophenyl, 4-methylphenyl, 3-chlorophenyl, 3-nitrophenyl, 3,4-dimethoxyphenyl, 3,4,5-trimethoxyphenyl, 4-dimethylaminophenyl, 4-methoxyphenyl, 4-trifluoromethylphenyl, 4-fluorophenyl, arylmethyl, indol-3-ylmethyl, cyanomethyl or ethoxycarbonylmethyl, wherein

R9 is hydrogen or 4-fluorophenyl,

HetA is 1H-pyrrol-2-yl, pyridin-4-yl, furan-2-yl, pyridin-3-yl, 3-methyl-1H-pyrazol-5-yl or 4-methyl[1,2,3]thiadiazol-5-yl,

aryl is phenyl, 4-methoxyphenyl or 3,4-dimethoxyphenyl,

or

R1 is methoxy,

R2 is methoxy,

R3, R31, R4, R5 and R51 are hydrogen,

R6 is hydrogen,

R7 is phenyl,

R8 is methyl or amino,

and the salts and the E/Z isomers of these compounds.

- 5. Compounds of the formula I according to either claim 1, 2, 3 or 4 in which the hydrogen atoms in positions 4a and 10b are in the cis position relative to one another, and the salts and the E/Z isomers of these compounds.
- 6. Compounds of the formula I according to either claim 1, 2, 3 or 4 which have with respect to the positions 4a and 10b the configuration shown in formula I*:

and the salts and the E/Z isomers of these compounds.

7. Compounds of the formula I as claimed in claim 1 for use in the treatment or prevention of diseases.

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- 8. A pharmaceutical composition comprising one or more compounds of the formula I as claimed in claim 1 together with customary pharmaceutical excipients and/or vehicles.
- 9. The use of compounds of the formula I as claimed in claim 1 and/or their pharmacologically acceptable salts for the production of pharmaceutical compositions for treating or preventing respiratory disorders and/or dematoses.
- 10. A method for treating illnesses in a patient comprising administering to said patient a therapeutically effective amount of a compound of the formula I as claimed in claim 1.
- 11. A method for treating airway disorders in a patient comprising administering to said patient a therapeutically effective amount of a compound of the formula I as claimed in claim 1.